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REMARKS

The drawings are objected to under 37 CFR 1.83(a) because the “predetermined angle range,” “tilt angle,” and “predetermined tilt angle” are allegedly not shown in the drawings. This objection is not understood as the referenced claim limitations allegedly not shown in the drawings represent *relative positioning* of claimed structures rather than structural elements themselves. That is, the claimed angles/angle range are arbitrary values defining the relative positions of the referenced structural features (e.g., platform) rather than tangible structures which can be illustrated. In any event, as the drawings illustrate, for example, the platform in a tilted position, the relative positioning of the platform in terms of the angle of tilt, etc., shown in the drawings can be taken as one exemplary embodiment of a predetermined angle range, etc.. In this regard, non-limiting examples of the “predetermined angle range,” “tilt angle,” and “predetermined tilt angle” are shown in the drawings.

The remaining objections to the drawings, specification and claims have been obviated by the enclosed amendment.

Based on the foregoing, it is respectfully requested that these objections be withdrawn.

Claims 1-4, 7, and 8 stand rejected under 35 U.S.C. § 112, second paragraph. It is respectfully submitted that the enclosed amendment obviates the alleged indefiniteness. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claim 1 is independent and stands rejected under 35 U.S.C. § 102(e) as being anticipated by Krywicznanin '382 (“Krywicznanin”) and under 35 U.S.C. § 103(a) as being unpatentable over

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Applicants' admitted prior art ("APA") in view of Gustafson '195 ("Gustafson"). These rejections are respectfully traversed for the following reasons.

A. Krywicznanin

Claim 1 recites in pertinent part, "a laterally tiltable platform; a tilt mechanism adapted to tilt the platform laterally; and a load-applying unit constituted from a tension spring and adapted to apply, in a state in which the platform is tilted within a predetermined angle range during a tilt operation of the tilt mechanism, a load to the platform in a direction that suppresses an expansion of the predetermined angle range, *so as to prevent one of a compression load and a tension load exerted on the tilt mechanism by the platform from reversing to the other one of the compression load or the tension load*" (emphasis added). According to one aspect of the present invention, because the load on the tilt mechanism from the platform during operation can be maintained throughout as either a compression load or a tension load, it can be made possible to prevent intermittent operation of the adjustable bed. In this regard, because reversals in the load on the coupling parts do not occur according to this aspect of the present invention, even if play exists structurally in the construction of the adjustable bed, it is possible to effectively prevent the jerkiness and sudden variations in the speed which conventional beds are subject to.

In contrast, Krywicznanin discloses an adjustable bed having a structure for tilting the bed laterally with operations of rings 22 and 24 provided along the width direction of the bed (Fig. 1). Each of the rings 22 and 24 includes a spring (136) in the central part thereof. However, as clearly shown in Fig.'s 10 and Fig. 11 of Krywicznanin, the springs (136) are used for guiding the movements of rotation limiters (128) that limit the rotation angle of the rings 22 and 24. In other words, when the rings 22 and 24 are rotated in one direction, the rotation limiters (128) powered by the springs 136 effect a stop pin (146) so that an expansion of the rotation angle in the

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direction is suppressed. The powered stop pin (146) suppresses the rotation angle only in one direction that decreases the rotation angle. Therefore, if one of the compression load and the tension load is exerted on the tilt mechanism by the platform, and the gravitational center of the platform changes in accordance with the movement of the tilt mechanism, the bed disclosed by Krywiczanin can not prevent the one of the compression load and the tension load from reversing to the other load type.

Accordingly, at a minimum, Krywiczanin can not prevent the reversing of the load during the tilt operation, and the spring (136) of the Krywiczanin is structurally different from the load-applying unit recited in claim 1 which is "to apply, in a state in which the platform is tilted within a predetermined angle range during a tilt operation of the tilt mechanism, a load to the platform in a direction that suppresses an expansion of the predetermined angle range, *so as to prevent one of a compression load and a tension load exerted on the tilt mechanism by the platform from reversing to the other one of the compression load or the tension load.*"

B. Gustafson

Gustafson merely discloses a structure of a bed with which the platform can be laterally displaced in the width direction or the longitudinal direction (Figs. 1-4). The Examiner contends that the bed has a load-applying unit (either of extension springs 21 or 22 on pivot arm mechanism 14). However, this load-applying unit is for moving the platform or for assisting the movement of the platform using the arms 15 and 16, and the force is exerted in the direction that increases the tilt angle formed by the arms 15 and 16 with the base. This direction in which the force is exerted is explained in detail in the diagram below.

Therefore, the load-applying unit of the reference Gustafson is not "to apply, in a state in which the platform is tilted within a predetermined angle range during a tilt operation of the tilt

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mechanism, a load to the platform in a direction that suppresses an expansion of the predetermined angle range, *so as to prevent one of a compression load and a tension load exerted on the tilt mechanism by the platform from reversing to the other one of the compression load or the tension load*". Moreover, Gustafson does not disclose or suggest recognition and of the necessity to suppress the expansion of the tilt angle, and is not motivated to do so. At best, Gustafson can achieve only an adjustable bed that includes load-applying unit 21, 22 and so on for guiding the movement of the platform.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed, either expressly or inherently (noting that "inherency may not be established by probabilities or possibilities", *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999)), in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that the cited prior art does not anticipate claim 1, nor any claim dependent thereon. The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 1 because the proposed combination fails the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*,

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819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

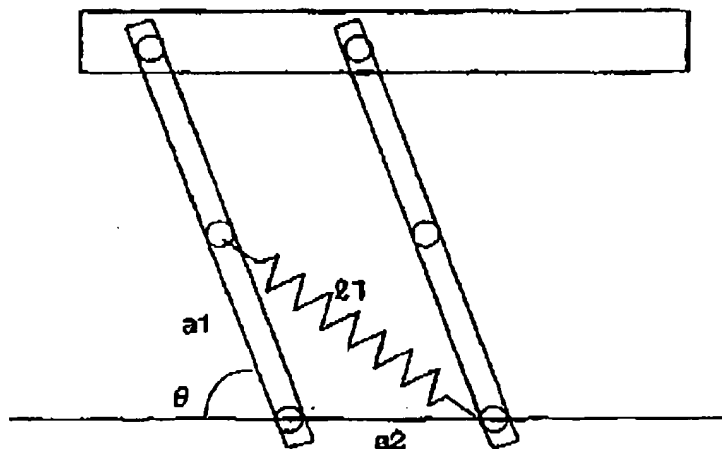
Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 102/103 be withdrawn.

DIAGRAM RELATED TO GUSTAFSON**Basis for Argument against Gustafson Patent**

When the frame structure is lifted from the state shown in Fig. 2 to the state shown in Fig. 3, the length of the spring is shortened. In other words, the force of the spring is at the maximum in the state shown in Fig. 2. This force is used as assistance for lifting the bed.

The following explanation is of calculation of the length of the spring (supplemental explanation).

FIG. A: Schematic View of Fig. 3 of Gustafson Patent



Application No.: 10/506,420**Explanation of References**

10: spring length in Fig. 2

11: spring length in Fig. 3

a1: distance between a base and a point on a link where the spring is connected

a2: distance between points on the base where a pair of links are connected

θ : angle formed by the link with the base

10 and 11 are both positive numbers. The squares of 10 and 11 are compared as follows:

$$10 = a1 + a2$$

$$11 = \sqrt{((a1 \cdot \cos\theta + a2)^2 + (a1 \cdot \sin\theta)^2)}$$

$$\begin{aligned} 10^2 - 11^2 &= (a1 + a2)^2 - ((a1 \cdot \cos\theta + a2)^2 + (a1 \cdot \sin\theta)^2) \\ &= 2 \cdot a1 \cdot a2 \cdot (1 - \cos\theta) \end{aligned}$$

Based on the structure shown in Fig. A, it is clear that $0^\circ \leq \theta \leq 90^\circ$. When the link moves to increase θ from 0° to 90° , the spring length decreases from 10. Therefore, when the frame structure is lifted from the state shown in Fig. 2 to the state shown in Fig. 3, the length of the spring is shortened.

In conclusion, the force of the spring is used such that the force of the spring is at the maximum when $\theta = 0^\circ$ and decreases as θ increases.

This means that the force is used so as to increase the tilt angle formed by the arms 15 and 16 with the base.

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CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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